WHAT IS CLAIMED IS:

1. A light scanning optical system comprising an incidence optical system for causing a beam emitted from light source means to be incident on the deflecting surface of a light deflector at a predetermined angle in the sub-scanning cross-section, and an imaging optical system for imaging the beam reflected and deflected by said light deflector on a surface to be scanned, wherein when the maximum value and minimum value of the peak intensity in the effective scanning area of a spot imaged on said surface to be scanned by said imaging optical system are defined as E_{MAX} and E_{MIN}, respectively, the following condition is satisfied:

$$0.8 \leq \frac{E_{MIN}}{E_{MAX}}.$$

2. A light scanning optical system according to Claim 1, wherein when the difference in the incidence point in the sub-scanning direction on said surface to be scanned between the two marginal rays of the beam reflected and deflected by the deflecting surface of said light deflector in the main scanning direction is defined as Δs and the diameter of the spot imaged on said surface to be scanned which becomes $1/e^2$ relative to the peak intensity in the sub-scanning direction is defined as Ds, the following condition is satisfied:

$$\frac{\Delta s}{Ds} \leq 0.9.$$

3. A light scanning optical system according to Claim 2, wherein when the beam width of the beam reflected and deflected by the deflecting surface of said light deflector in the main scanning direction is defined as d and the angle of incidence at which the beam from said incidence optical system is incident on said deflecting surface from an oblique direction with respect to a plane containing a normal to the deflecting surface of said light deflector in the sub-scanning cross-section and parallel to the main scanning direction is defined as α and the scanning angle of the beam reflected and deflected by the deflecting surface of said light deflector is defined as θ and the lateral magnification of said imaging optical system in the sub-scanning direction is defined as β, the following condition is satisfied:

$$\frac{2 \times d \times \tan\left(\frac{\theta}{2}\right) \times (\sin\alpha) \times \beta}{Ds} \leq 0.9.$$

4. A light scanning optical system according to Claim 2, wherein the optical axis of at least one of lens surface constituting said imaging optical system in the sub-scanning cross-section is shifted in the

sub-scanning direction relative to the center axis of the beam reflected and deflected by said deflecting surface and travelling toward the central position of the effective scanning area or/and is inclined in the sub-scanning direction.

5. A light scanning optical system according to Claim 2, wherein eh height of the optical axis of at least one of lens surfaces constituting said imaging optical system in the sub-scanning cross-section continuously varies in conformity with the lengthwise position in the main scanning direction.

6. A light scanning optical system according to Claim 1, wherein at least some of lenses constituting said imaging optical system also constitute said incidence optical system.

7. A light scanning optical system according to Claim 1, wherein the beam emitted from said light source means is incident on the deflecting surface of said light deflector in a state in which it is wider than the width of said deflecting surface in the main scanning direction.

8. A light scanning optical system according to Claim 1, wherein the beam emitted from said light

source means is incident on the deflecting surface from substantially the center of the scanning angle by said light deflector.

9. A light scanning optical system according to Claim 1, wherein at least one of lens surfaces constituting said imaging optical system has its radius of curvature in the sub-scanning cross-section continuously varied away from the optical axis of the lens in the main scanning direction.

10. A light scanning optical system according to Claim 1, wherein said light source means is a multibeam laser source having a plurality of light emitting portions.

11. An optical scanning apparatus characterized by using a light scanning optical system according to any one of Claims 1 to 10.

12. An image forming apparatus provided with an optical scanning apparatus according to Claim 11, and a printer controller for converting code data inputted from an external device into an image signal and inputting it to said optical scanning apparatus.

13. An image forming apparatus according to Claim

12, wherein an image is formed by background exposure.

14. A light scanning optical system comprising an incidence optical system for causing a beam emitted from light source means to be incident on the deflecting surface of a light deflector at a predetermined angle in the sub-scanning cross-section, and an imaging optical system for imaging the beam reflected and deflected by said light deflector on a surface to be scanned, and bringing the deflecting surface of said light deflector and said surface to be scanned into a substantially conjugate relation in the sub-scanning cross-section, wherein when the difference in the incidence point in the sub-scanning direction on said surface to be scanned between the two marginal rays of the beam reflected and deflected by the deflecting surface of said light deflector in the main scanning direction is defined as Δs and the diameter of a spot imaged on said surface to be scanned which becomes $1/e^2$ relative to the peak intensity in the sub-scanning direction is defined as Ds, the following condition is satisfied:

$$\frac{\Delta s}{Ds} \leq 0.9.$$

15. A light scanning optical system according to Claim 14, wherein when the beam width of the beam

reflected and deflected by the deflecting surface of said light deflector in the main scanning direction is defined as d and the angel of incidence at which the beam from said incidence optical system is incident on said deflecting surface from an oblique direction with respect to a plane containing a normal to the deflecting surface of said light deflector in the sub-scanning cross-section and parallel to the main scanning direction is defined as α and the scanning angle of the beam reflected and deflected by the deflecting surface of said light deflector is defined as θ and the lateral magnification of said imaging optical system in the sub-scanning direction is defined as β, the following condition is satisfied:

$$\frac{2 \times d \times \tan\left(\frac{\theta}{2}\right) \times (\sin\alpha) \times \beta}{Ds} \leq 0.9.$$

16. A light scanning optical system according to Claim 14, wherein the optical axis of at least one of lens surfaces constituting said imaging optical system in the sub-scanning cross-section is shifted in the sub-scanning direction with respect to the center axis of the beam reflected and deflected by said deflecting surface and travelling toward the central position of an effective scanning area or/and is inclined in the sub-scanning direction.

17. A light scanning optical system according to Claim 14, wherein the height of the optical axis of at least one of lens surfaces constituting said imaging optical system in the sub-scanning cross-section continuously varies in conformity with the lengthwise position in the main scanning direction.

18. A light scanning optical system according to Claim 14, wherein at least some of lenses constituting said imaging optical system also constitute said incidence optical system.

19. A light scanning optical system according to Claim 14, wherein the beam emitted from said light source means is incident on the deflecting surface of said light deflector in a state in which it is wider than the width of said deflecting surface in the main scanning direction.

20. A light scanning optical system according to Claim 14, wherein the beam emitted from said light source means is incident on the deflecting surface from substantially the center of the scanning angle by said light deflector.

21. A light scanning optical system according to Claim 14, wherein at least one of lens surfaces

constituting said imaging optical system has its radius of curvature in the sub-scanning cross-section continuously varied away from the optical axis of the lens in the main scanning direction.

22. A light scanning optical system according to Claim 14, wherein said light source means is a multibeam laser source having a plurality of light emitting portions.

23. An optical scanning apparatus characterized by using a light scanning optical system according to any one of Claims 14 to 22.

24. An image forming apparatus provided with an optical scanning apparatus according to Claim 23, and a printer controller for converting code data inputted from an external device into an image signal and inputting it to said optical scanning apparatus.

25. An image forming apparatus according to Claim 24, wherein an image is formed by background exposure.

26. A light scanning optical system in which a beam emitted from light source means is caused by an incidence optical system to be incident on a first deflecting surface of a light deflector having a

plurality of deflecting surfaces at a predetermined angle in the sub-scanning cross-section, and the beam reflected and deflected by said first deflecting surface is caused to be again incident on a second deflecting surface of said light deflector differing from said first deflecting surface through a transmitting optical system, and the beam reflected and deflected by said second deflecting surface is imaged on a surface to be scanned by an imaging optical system, and in the sub-scanning cross-section, the deflecting surfaces of said light deflector and said surface to be scanned are brought into a substantially conjugate relation, wherein when the maximum value and minimum value of the peak intensity in the effective scanning area of a spot imaged on said surface to be scanned by said imaging optical system are defined as E_{MAX} and E_{MIN}, respectively, the following condition is satisfied:

$$0.8 \leq \frac{E_{MIN}}{E_{MAX}}.$$

27. A light scanning optical system according to Claim 26, wherein when the difference in the incidence point in the sub-scanning direction on said surface to be scanned between the two marginal rays of the beam reflected and deflected by the second deflecting surface of said light deflector in the main scanning

direction is defined as Δs and the diameter of the spot imaged on said surface to be scanned which becomes $1/e^2$ relative to the peak intensity in the sub-scanning direction is defined as Ds, the following condition is satisfied:

$$\frac{\Delta s}{Ds} \leq 0.9.$$

28. A light scanning optical system according to Claim 27, wherein when the beam width of the beam reflected and deflected by the second deflecting surface of said light deflector in the main scanning direction is defined as d and the angle of incidence at which the beam from said incidence optical system is incident on said first deflecting surface from an oblique direction with respect to a plane containing a normal to the first deflecting surface of said light deflector in the sub-scanning cross-section and parallel to the main scanning direction is defined as α and the scanning angle of the beam reflected and deflected by the second deflecting surface of said light deflector is defined as θ and the lateral magnification of said imaging optical system in the sub-scanning direction is defined as β, the following condition is satisfied:

$$\frac{2 \times d \times \tan\left(\frac{\theta}{2}\right) \times (\sin\alpha) \times \beta}{Ds} \leq 0.9.$$

29. A light scanning optical system according to Claim 27, wherein the optical axis of at least one of lens surfaces constituting said imaging optical system in the sub-scanning cross-section is shifted in the sub-scanning direction relative to the center axis of the beam reflected and deflected by said deflecting surface and travelling toward the central position of the effective scanning area or/and is inclined in the sub-scanning direction.

30. A light scanning optical system according to Claim 27, wherein the height of the optical axis of at least one of lens surfaces constituting said imaging optical system in the sub-scanning cross-section continuously varies in conformity with the lengthwise position in the main scanning direction.

31. A light scanning optical system according to Claim 26, wherein at least some of lenses constituting said imaging optical system also constitute said incidence optical system.

32. A light scanning optical system according to Claim 26, wherein the beam emitted from said light source means is incident on the first deflecting surface of said light deflector in a state in which it is wider than the width of said first deflecting

surface in the main scanning direction.

33. A light scanning optical system according to Claim 26, wherein the beam emitted from said light source means is incident on the first deflecting surface from substantially the center of the scanning angle by said light deflector.

34. A light scanning optical system according to Claim 26, wherein at least one of lens surfaces constituting said imaging optical system has its radius of curvature in the sub-scanning cross-section continuously varied away from the optical axis of the lens in the main scanning direction.

35. A light scanning optical system according to Claim 26, wherein said light source means is a multibeam laser source having a plurality of light emitting portions.

36. An optical scanning apparatus characterized by using a light scanning optical system according to any one of Claims 26 to 35.

37. An image forming apparatus provided with an optical scanning apparatus according to Claim 36, and a printer controller for converting code data inputted

from an external device into an image signal and inputting it to said optical scanning apparatus.

38. An image forming apparatus according to Claim 37, wherein an image is formed by background exposure.